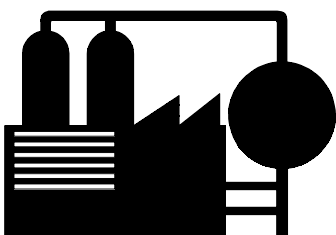


Backgrounder — Radiological Accidents



“Radiation cannot be detected by sight, smell or any other sense.”

Emergency Information

Protection in a nuclear emergency comes from:

- Distance—the more distance from the radiation the better
- Shielding—heavy, protective materials that absorb radiation
- Time—radiation loses its intensity rapidly

Radioactive materials are dangerous because of the harmful effect of certain types of radiation on the cells of the body. A radiation accident could allow radiation to contaminate the environment. Radiation cannot be detected by sight, smell or any other sense.

Nuclear power plant accidents will not cause the widespread destruction of a nuclear weapon nor will they produce radiation fallout. A power plant accident can cause an environmental radiation hazard by releasing radiation into the air.

Nuclear Power Plants

Thirty-eight states, particularly those in the eastern half of the contiguous 48 states and the West Coast states have at least one full power, licensed reactor. Nearly three million Americans live within 10 miles of an operating nuclear power plant.

What Is a Radiological Accident?

A radiological accident is an event involving release of potentially dangerous radioactive materials into the environment. This release is usually a cloud or "plume" and could affect the health and safety of anyone in its path. Radiological accidents can occur anywhere that radioactive materials are used, stored or transported. Nuclear power plants, transport of radiological materials, and disposal of radioactive waste all pose risks. However, operations of facilities and the transport and disposal of radioactive waste are closely regulated by a variety of federal and local organizations, so the likelihood of an incident is remote.

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Federal Emergency
Management Agency
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“No deaths or serious injuries have ever been attributed to the radioactive nature of any materials involved in a transportation accident.”

Help Your Community Get Ready

Media can raise awareness about radiological accidents by providing information to the community.

- Inform your community of the locations of nuclear power plants, radioactive storage sites, radioactive waste dumps and facilities that use radioactive materials in your area. Inform your community of public information meetings about safety precautions and emergency plans.
- Periodically report on your community's public warning systems and the terms used to describe a nuclear emergency.
- Publish a special section in your newspaper containing a map of your community that readers can use to plan several evacuation routes. Include guidelines for selecting the routes based on information from your local emergency management officials and provide a list of emergency supplies that should be pre-assembled for a quick getaway.

Did You Know...

Nuclear energy is second only to coal as an energy source and contributes over 16 percent of all the electricity generated in the United States.

A meltdown occurs when the water that keeps the reactor core cooled is lost for an extended time, allowing the ceramic fuel pellets and metal fuel pins that help prevent the accidental release of radioactive material to overheat. To prevent this, nuclear power plants are designed with several independent cooling systems that operate automatically with a loss of coolant.

About three million shipments of radioactive materials are made each year by highway, railroad, aircraft and ship. No deaths or serious injuries have ever been attributed to the radioactive nature of any materials involved in a transportation accident.

People receive some radiation exposure each day from the sun, radioactive elements in the soil and rocks, household appliances like televisions and microwave ovens and medical x-rays.

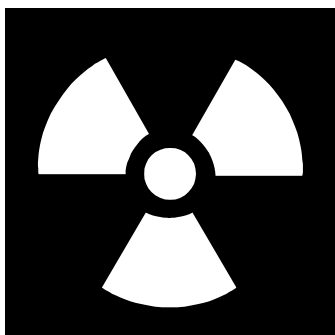
The worst nuclear power plant accident in U.S. history occurred at the Three Mile Island nuclear power plant near Harrisburg, Pennsylvania in 1979. A minor mechanical malfunction

compounded by human error damaged the nuclear reactor core and threatened to release radioactive materials into the environment. With assistance from government officials and nuclear scientists, a serious release of radioactive materials was avoided, although officials were able to detect radiation up to 20 miles from the site.

Sources of Radiation to U.S. Population

Portion of Total Exposure	Source
50.5%	Natural background radiation
46.5%	Medical irradiation
2.3%	Fallout
0.5%	Miscellaneous sources
0.2%	Occupational exposure
0.05%	Releases from nuclear industry
Notes: 1. The nuclear energy industry contributes far less than 1 percent of the average person's exposure to radiation. 2. Source: National Academy of Sciences, 1980; National Council of Radiation Protection and Measurement, 1984	

Terms for Describing Nuclear Emergencies



- Notification of unusual event—A problem has occurred at the plant, but there is no radiation leak. Federal, state and county officials will be notified by plant officials.
- Alert—There could be a radiation leak inside the plant, but it will not affect the community. Federal, state and county officials will be on standby in case they are needed.
- Site area emergency—This describes a more serious problem. Small amounts of radiation could leak from the plant. If necessary, state and county officials will act to ensure public safety.
- General emergency—This refers to a serious problem. Radiation could leak off the plant site. State and county officials will act to ensure public safety.